

REMARKS

Claims 12-27 were previously pending in the application. This Amendment amends claims 1, 16, 20, and 25. Claims 2-15, 17-19, 21-24, 26, and 27 remain unchanged. New claims 28-32 are added. Claims 12 and 21 are independent.

An excess claim fee payment letter is submitted herewith for one excess total claim.

The Claim Objections

The Office Action objects to claim 25 because of informalities. This Amendment amends claim 25 to correct the informalities, thereby obviating this objection.

Applicants respectfully request withdrawal of this objection.

The Claimed Invention

An exemplary embodiment of the claimed invention, as recited by, for example, independent claim 12, is directed to a no-frost refrigeration device comprising a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator **based on at least one air conditioning parameter.**

An exemplary embodiment of the claimed invention, as recited by, for example, independent claim 21, is directed to a method for operating a refrigeration device including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator, comprising the steps of a) estimating a moisture value in said storage compartment; b) **selecting a circulating power for said fan as a function of said estimated moisture value;** and c) operating said fan at said selected circulating power.

In conventional refrigeration devices, a storage compartment is cooled by blowing cooled and dried air into the storage compartment with the aid of a fan at the evaporator and extracting relatively warm moist air from the storage compartment into an evaporator chamber. The storage compartment is not only cooled but also de-humidified and the moisture is deposited on the evaporator. However, under some ambient conditions, stored foodstuffs may be dried out by the intensive de-humidification.

In stark contrast, the present invention provides a no-frost refrigeration device comprising a control circuit which makes an average circulation power of the fan variable during an activation phase of the evaporator **based on at least one air conditioning parameter**, as recited in claim 12. The present invention also provides a method for operating a refrigeration device including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator, comprising the steps of a) estimating a moisture value in said storage compartment; b) **selecting a circulating power for said fan as a function of said estimated moisture value**; and c) operating said fan at said selected circulating power, as recited in claim 21.

In this manner, the present invention provides a no-frost refrigeration device and an operating method for such a device which allows flexible adaptation to the climatic conditions in the environment of the refrigerator, thereby controlling de-humidification and reducing drying out of stored foodstuffs by the de-humidification.

The Rejections under 35 U.S.C. § 102

In the Office Action, claims 12-13, 17-18, 20-23 and 26-27 are rejected under 35 U.S.C. § 102(b) as being anticipated by the Whipple, III reference (U.S. 5,711,159).

Applicants respectfully traverse this rejection.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. [...] The identical invention must be shown in as complete detail as is contained in the ... claim." M.P.E.P. § 2131.

Applicants respectfully submit that the Whipple, III reference does not disclose the features of the claimed invention including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator based on at least one air conditioning parameter, as recited by independent claim 12.

The Whipple, III reference also does not disclose the features of the claimed invention including a method for operating a refrigeration device including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator, comprising the steps of a) estimating a moisture value in said storage compartment; b) selecting a circulating power for said fan as a function of said estimated moisture value; and c) operating said fan at said selected circulating power, as recited by independent claim 21.

As explained above, these features are important for providing a no-frost refrigeration device and an operating method for such a device which allows flexible adaptation to the climatic conditions in the environment of the refrigerator, thereby controlling de-humidification and reducing drying out of stored foodstuffs by the de-humidification.

The Whipple, III reference very clearly does not disclose these features. Indeed, the Whipple, III reference very clearly fails to disclose at least a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator based on at least one air conditioning parameter, as recited by independent claim 12.

The Whipple, III reference mentions that the ambient condition sensor 175 provides an input signal corresponding to ambient conditions, such as

temperature and humidity, to the controller 165. However, Applicants respectfully submit that the Whipple, III reference does not disclose, either explicitly or implicitly, selecting a circulating power for the fan based on at least one air conditioning parameter. Indeed, the Whipple, III reference is completely silent with respect to controlling the circulating power for a fan as a function of an estimated moisture value.

The Whipple, III reference very clearly does not disclose a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator based on at least one air conditioning parameter, as recited by independent claim 12.

With respect to independent claim 21, the Office Action alleges that the Whipple, III reference discloses a control circuit (165, and see col. 5, ln. 24 and 42-46) which makes an average circulation power of a fan variable during an activation phase of an evaporator, comprising the steps of: a) estimating (via 175 and 165, and see col. 5, ln. 65-67, and col. 6, ln. 1-7) a moisture value in a storage compartment; **b) selecting (via 165, and see col. 5, ln. 42-46) a circulating power for a fan as a function of an estimated moisture value;** and c) operating (see col. 5, in. 42-46) a fan at a selected circulating power.

Contrary to the assertions in the Office Action, the Whipple, III reference very clearly does not disclose selecting a circulating power for a fan as a function of an estimated moisture value and operating a fan at a selected circulating power.

As the Office Action points out, the Whipple, III reference mentions that the ambient condition sensor 175 provides an input signal corresponding to ambient conditions, such as temperature and humidity, to the controller 165. However, Applicants respectfully submit that col. 5, ln. 42-46 of the Whipple, III reference has absolutely nothing to do with selecting a circulating power for the fan as a function of the estimated moisture value. Indeed, the Whipple, III reference is

completely silent with respect to controlling the circulating power for a fan as a function of an estimated moisture value.

The Whipple, III reference very clearly does not disclose a method for operating a refrigeration device including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator, comprising the steps of a) estimating a moisture value in said storage compartment; b) selecting a circulating power for said fan as a function of said estimated moisture value; and c) operating said fan at said selected circulating power, as recited by independent claim 21.

Applicants respectfully request withdrawal of this rejection.

The Rejections under 35 U.S.C. § 103

In the Office Action, claims 14-16, 19 and 24-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Whipple, III reference in view of the Shima et al. reference (U.S. 5,931,011).

Applicants respectfully traverse this rejection.

Applicants respectfully submit that none of the applied references discloses or suggests the features of the claimed invention including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator based on at least one air conditioning parameter, as recited by independent claim 12.

Somewhat similarly, none of the applied references discloses or suggests the features of the claimed invention including a method for operating a refrigeration device including a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator, comprising the steps of a) estimating a moisture value in said storage compartment; b) selecting a circulating power for said fan as a function of said estimated moisture value; and c) operating said fan at said selected circulating power, as recited by independent claim 21.

As explained above, these features are important for providing a no-frost refrigeration device and an operating method for such a device which allows flexible adaptation to the climatic conditions in the environment of the refrigerator, thereby controlling de-humidification and reducing drying out of stored foodstuffs by the de-humidification.

The Whipple, III reference very clearly does not teach or suggest these features. The Shima et al. reference does not remedy the deficiencies of the Whipple, III reference.

Indeed, the Office Action fails to cite any support in the Shima et al. reference for controlling the fan "based on at least one air conditioning parameter", as recited by independent claim 12, or "as a function of said estimated moisture value", as recited by independent claim 21.

Instead, the Office Action merely makes a conclusory statement that such would have been obvious "in order to achieve a device capable of regulating a duty cycle based on an air conditioning parameter, and therefore provide a refrigerator that operates more efficiently and therefore more economically." See, e.g., Office Action at Pages 6-7, with respect to claims 16 and 25.

Appellant respectfully submits that such a conclusory statement is insufficient to provide a prima facie case for obviousness because the Office Action fails to provide an adequate rationale for combining the prior art as required by *KSR International v. Teleflex Inc.* 82 U.S.P.Q. 2d 1385 (2007).

"[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." (In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006) cited with approval in *KSR*).

Moreover, the Shima et al. reference does not recognize the aforementioned problems with the conventional devices and would suffer from the very same problems of the conventional art described in the present application.

In stark contrast to the teachings of the Shima et al. reference, independent claim 12 recites a control circuit which makes an average circulation power of said fan variable during an activation phase of said evaporator based on at least one air conditioning parameter. Also in stark contrast to the teachings of the Shima et al. reference, independent claim 21 recites the steps of selecting a circulating power for said fan as a function of said estimated moisture value.

None of the applied references discloses or suggests the subject matter defined by independent claims 12 and 21.

Applicants respectfully request withdrawal of these rejections.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 12-32 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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May 13, 2009

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